

CLAIMS:

1. A color developing composition having a pH greater than 7 and comprising:
- a) at least 0.0005 mol/l of a color developing agent,
 - b) at least 0.0005 mol/l of an organic antioxidant for said color developing agent, and
 - c) at least 0.0005 mol/l of a stabilizing compound represented by the following Structure (I):



(I)

wherein R₁ and R₂ are independently hydrogen or a monovalent aliphatic, heterocyclic, or aromatic group, or R₁ and R₂ are taken together with the nitrogen to which they are attached to form a substituted or unsubstituted 5- to 6-membered heterocyclic ring, m is 0 or 1 such that when m is 0, L is an alkyl or aryl group and when m is 1, L is an alkylene or arylene linking group, M⁺ is a suitable cation to provide a salt, and n is 1, 2, or 3.

2. The composition of claim 1 having a pH of from about 8 to about 14, and wherein said color developing agent is present in an amount of from about 0.0005 to about 5 mol/l, and said antioxidant is a hydroxylamine derivative that is present in an amount of from about 0.0005 to about 1 mol/l.

3. The composition of claim 2 wherein said antioxidant has one or more sulfo, carboxy, or hydroxy solubilizing groups.

4. The composition of claim 1 further comprising one or more polycarboxylic acids or polyphosphonic acids as calcium ion sequestering agents.

5. The composition of claim 1 comprising from about 0.005 to about 3 mol/l of said stabilizing compound.

6. The composition of claim 1 wherein the molar ratio of said stabilizing compound to said antioxidant is from about 1:20 to about 20:1.

7. The composition of claim 1 wherein n is 1 or 2, R₁ and R₂ are independently hydrogen, an alkyl group having 1 to 5 carbon atoms, or a phenyl group, m is 1, L is phenylene or an alkylene having 2 to 12 carbon atoms in the chain, and M⁺ is hydrogen, ammonium ion, or an alkali metal cation.

8. The composition of claim 7 wherein m is 1, n is 1, R₁ and R₂ are independently hydrogen, methyl, or ethyl, L is phenylene or an alkylene having 2 to 4 carbon atoms in the chain, and M⁺ is hydrogen, ammonium, sodium, or potassium.

9. The composition of claim 1 wherein R₁ and R₂ form a 5- or 6-membered heterocyclic ring having one or more -L-SO₃⁻ M⁺ groups as substituents on said ring.

10. The composition of claim 1 wherein said stabilizing compound is aminoethanesulfonic acid, 3-(N-(tris(hydroxymethyl)methyl)-amino)propanesulfonic acid, 3-(cyclohexylamino)-1-propanesulfonic acid, 3-(cyclohexylamino)-2-hydroxy-1-propanesulfonic acid, aminophenylsulfonic acid, 2-(N-morpholinoethanesulfonic acid, methanesulfonic acid, piperazine-N,N'-bis(2-ethanesulfonic acid), 1-propanesulfonic acid, 2-hydroxy-3-[[2-hydroxy-1,1-bis(hydroxymethyl)ethyl]amino], 2-[[tris(hydroxymethyl)methyl]-amino]ethanesulfonic acid, 3-(N-morpholino)-2-hydroxypropanesulfonic acid, 3(N-(tris(hydroxymethyl)methyl)amino)propanesulfonic acid, naphthalenesulfonic acid, 2-hydroxyethanesulfonic acid, or a salt of any of these acids.

11. A homogeneous, aqueous single-part color developing composition having a pH of from about 8 to about 14 and comprising:

a) from about 0.0005 to about 1 mol/l of a color developing agent in free base form,

b) from about 0.0005 to about 1 mol/l of a hydroxylamine derivative antioxidant for said color developing agent,

c) a water-miscible or water-soluble hydroxy-substituted, straight-chain organic solvent that has a molecular weight of from about 50 to about 200,

d) a buffering agent that is soluble in said organic solvent, and

e) at least 0.0005 mol/l of a stabilizing compound represented by the following Structure (I):



(I)

wherein R_1 and R_2 are independently hydrogen or a monovalent aliphatic, heterocyclic, or aromatic group, or R_1 and R_2 are taken together with the nitrogen to which they are attached to form a substituted or unsubstituted 5- to 6-membered heterocyclic ring, m is 0 or 1 such that when m is 0, L is an alkyl or aryl group and when m is 1, L is an alkylene or arylene linking group, M^+ is a suitable cation to provide a salt, and n is 1, 2, or 3.

12. The composition of claim 11 wherein said stabilizing compound is aminoethanesulfonic acid, 3-(N-(tris(hydroxymethyl)methyl)-amino)propanesulfonic acid, 3-(cyclohexylamino)-1-propanesulfonic acid, 3-(cyclohexylamino)-2-hydroxy-1-propanesulfonic acid, aminophenylsulfonic acid, 2-(N-morpholinoethanesulfonic acid, methanesulfonic acid, piperazine-N,N'-bis(2-ethanesulfonic acid), 1-propanesulfonic acid, 2-hydroxy-3-[[2-hydroxy-1,1-bis(hydroxymethyl)ethyl]amino], 2-[[tris(hydroxymethyl)methyl]-amino]ethanesulfonic acid, 3-(N-morpholino)-2-hydroxypropanesulfonic acid, 3(N-(tris(hydroxymethyl)methyl)amino)propanesulfonic acid, naphthalenesulfonic acid, 2-hydroxyethanesulfonic acid, or a salt of any of these acids.

13. A multi-part color developing composition kit comprising:

(I) a first aqueous solution having a pH of from about 9 to about 13,

(II) a second aqueous solution having a pH of from about 3 to about 7

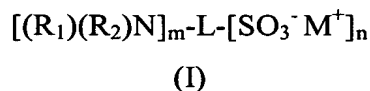
and comprising:

(a) at least 0.0005 mol/l of a color developing agent,
(b) at least 0.0005 mol/l of an organic antioxidant for said color developing agent, and

(c) at least 0.0001 mol/l of sulfite ions,
5 (III) an optional third aqueous solution having a pH of from about 10 to about 13.5,

wherein one or more of said first or second aqueous solutions further comprises:

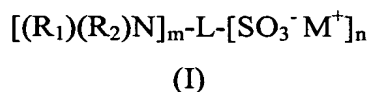
(d) at least 0.0005 mol/l of a stabilizing compound represented
10 by the following Structure (I):



wherein R_1 and R_2 are independently hydrogen or a monovalent aliphatic, heterocyclic, or aromatic group, or R_1 and R_2 are taken together with the nitrogen
15 to which they are attached to form a substituted or unsubstituted 5- to 6-membered heterocyclic ring, m is 0 or 1 such that when m is 0, L is an alkyl or aryl group and when m is 1, L is an alkylene or arylene linking group, M^+ is a suitable cation to provide a salt, and n is 1, 2, or 3.

20 14. The kit of claim 13 wherein said stabilizing compound is present in at least said second aqueous solution.

15. A color developing composition having a pH greater than 7 and comprising at least 0.0005 mol/l of a color developing agent, and
25 at least 0.0005 mol/l of a stabilizing compound represented by the following Structure (I):

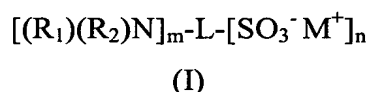


wherein R_1 and R_2 are independently hydrogen or a monovalent aliphatic,
30 heterocyclic, or aromatic group, or R_1 and R_2 are taken together with the nitrogen to which they are attached to form a substituted or unsubstituted 5- to 6-membered heterocyclic ring, m is 0 or 1 such that when m is 0, L is an alkyl or aryl group and

when m is 1, L is an alkylene or arylene linking group, M⁺ is a suitable cation to provide a salt, m is 0 or 1, and n is 1, 2, or 3.

16. A method for providing a color image in a color photographic silver halide element comprising contacting said element with an aqueous photographic color developing composition having a pH of from about 7 to about 14 and comprising:

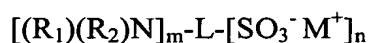
- a) at least 0.0005 mol/l of a color developing agent,
- b) at least 0.0005 mol/l of an organic antioxidant for said color developing agent, and
- c) at least 0.0005 mol/l of a stabilizing compound represented by the following Structure (I):



wherein R₁ and R₂ are independently hydrogen or a monovalent aliphatic, heterocyclic, or aromatic group, or R₁ and R₂ are taken together with the nitrogen to which they are attached to form a substituted or unsubstituted 5- to 6-membered heterocyclic ring, m is 0 or 1 such that when m is 0, L is an alkyl or aryl group and when m is 1, L is an alkylene or arylene linking group, M⁺ is a suitable cation to provide a salt, and n is 1, 2, or 3.

17. A method of photographic processing comprising the steps of:

- A) color developing an imagewise exposed color photographic silver halide element with a photographic color developing composition having a pH of from about 7 to about 14 and comprising:
 - a) at least 0.0005 mol/l of a color developing agent,
 - b) at least 0.0005 mol/l of an organic antioxidant for said color developing agent, and
 - c) at least 0.0005 mol/l of a stabilizing compound represented by the following Structure (I):



(I)

wherein R_1 and R_2 are independently hydrogen or a monovalent aliphatic, heterocyclic, or aromatic group, or R_1 and R_2 are taken together with the nitrogen to which they are attached to form a substituted or unsubstituted 5- to 6-membered heterocyclic ring, m is 0 or 1 such that when m is 0, L is an alkyl or aryl group and
5 when m is 1, L is an alkylene or arylene linking group, M^+ is a suitable cation to provide a salt, and n is 1, 2, or 3, and

B) desilvering said color developed color photographic silver halide element.

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18. The method of claim 17 wherein said photographic color silver halide element is a photographic color paper or color negative film.

19. The method of claim 17 carried out in a minilab.

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20. The method of claim 17 wherein said color development composition is replenished at a rate of from about 6 to about 2000ml/m² of processed color photographic silver halide element, color development is carried out for from about 12 to about 450 seconds, and said desilvering is carried out
20 from about 30 to about 600 seconds.